

Amendment and Response

Applicant: Thomas Kattwinkel

Serial No.: 10/802,412

Filed: March 17, 2004

Docket No.: I434.104.101/IFT998US

Title: METHOD FOR DETERMINING A SYSTEM OPERATING STATE

REMARKS

The following remarks are made in response to the Office Action mailed June 23, 2005. Claims 15 and 25 have been cancelled. Claims 1-26 were rejected. With this Response, claims 1, 16, 22, and 26 have been amended. Claims 1-14, 16-24, and 26 remain pending in the application and are presented for reconsideration and allowance.

In the Drawings

The Examiner objected to the Figures 1, 3-7, and 9A-9B because of unlabeled boxes. Applicant has submitted a set of Annotated Sheets Showing Changes and a set of Replacement Sheets adding labels to the previously unlabeled boxes, based upon the labels given in the specification. No new matter is added with these changes.

In the Specification

The Examiner objected to the specification because of an informality. Applicant has amended the Specification to correct this informality. Applicant believes the Specification is now in condition for allowance.

Claim Rejections under 35 U.S.C. § 102

The Examiner rejected claims 1-7, 9-14, 19, and 22-24 under 35 U.S.C. § 102(3) as being anticipated by the Hala et al. U.S. Patent No. 6,507,804. With this Response, Applicant has amended claims 1 and 22 to include the limitations of claims 15 and 25, respectively. Consequently, the rejection of claims 1 and 22, along with all of their dependent claims, is now overcome.

Therefore, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 102(e) rejection to claims 1-7, 9-14, 19, and 22-24, and request allowance of these claims.

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Claim Rejections under 35 U.S.C. § 103

The Examiner rejected claims 15, 16, and 25 under 35 U.S.C. § 103(a) for being unpatentable over the Hala et al. U.S. Patent No. 6,507,804 in view of the Smith et al. U.S. Patent No. 5,523,701. The Smith et al. patent discloses a method for monitoring operating conditions of an electric drive motor by sensing motor current drawing by the motor.

As amended, both claims 15 and 22 specify a method and apparatus wherein the analog signal indicating the operating state of the DC motor is a voltage present between the connecting terminals of the motor which serve for applying a supply voltage to the motor. As such, there is a significant difference between the claimed invention and the method according to the Smith et al. patent in that the claimed invention uses the voltage across supply terminals of the motor, while the Smith et al. patent uses the current drawn by the motor. In opposite to the Smith et al. patent, the present invention requires no additional devices for converting the motor current into a signal voltage proportional to the motor current, which may be used for further processing in order to monitor the operating state (see column 2, lines 63-67 of the Smith et al. patent). The fact that no current-voltage-converter is required for performing the present invention is an advantage in terms of reduced cost and reduced complexity of the system performing the inventive method.

As such, taking into account the Smith et al. patent, it is not obvious to the one skilled in the art to detect the voltage present across supply terminals of a motor to detect the operating state of the motor. This is in particular true since basically a constant supply voltage is supplied to those supply terminals of a DC motor. However, the motor superimposes a varying voltage to such constant voltage. The resulting varying voltage which is a sum of this constant supply voltage and the varying voltage superimposed by the motor may then be used for detecting the motor's operating state.

The Examiner rejected claim 8 under 35 U.S.C. § 103(a) for being unpatentable over the Hala et al. U.S. Patent No. 6,507,804 in view of the Fukuda et al. U.S. Patent No. 5,960,373. The Examiner also rejected claims 17, 20, and 26 under 35 U.S.C. § 103(a) for being unpatentable over the Hala et al. U.S. Patent No. 6,507,804 in view of the Naito et al. U.S. Patent No. 6,092,028. Finally, the Examiner rejected claim 21 under 35 U.S.C. § 103(a) for being

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unpatentable over the Hala et al. U.S. Patent No. 6,507,804 in view of the Tamura U.S. Patent No. 6,301,530.

Since each of the claims 8, 17, 20, 21, and 26 depend on claims 1 or 22, which are now in allowable form, they are also now allowable. Therefore, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103 rejection to claims 8, 16, 17, 20, 21, and 26, and request allowance of these claims.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-14, 16-24, and 26 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-14, 16-24, and 26 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

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Respectfully submitted,

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Date: 12/22/05

PPK:cmj


Paul P. Kempf

Reg. No. 39,727

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 22nd day of December, 2005.

By 

Name: Paul P. Kempf

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FIG 1

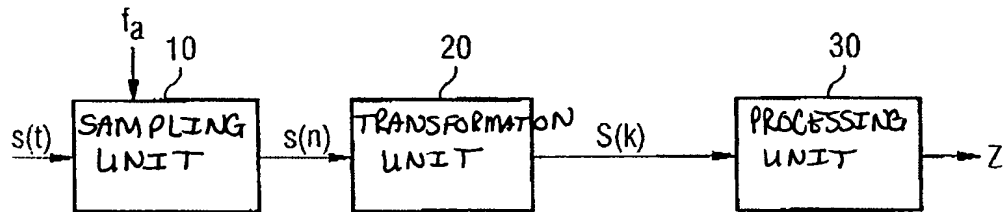


FIG 2a

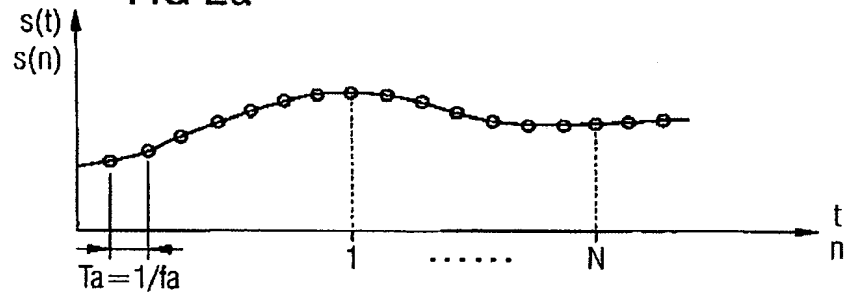
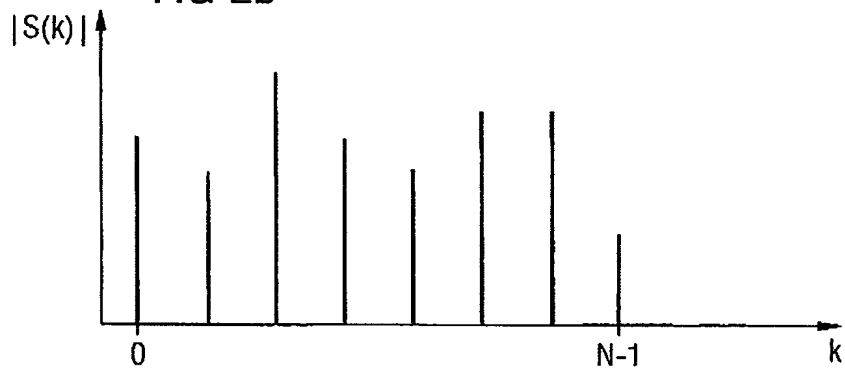


FIG 2b



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FIG 3

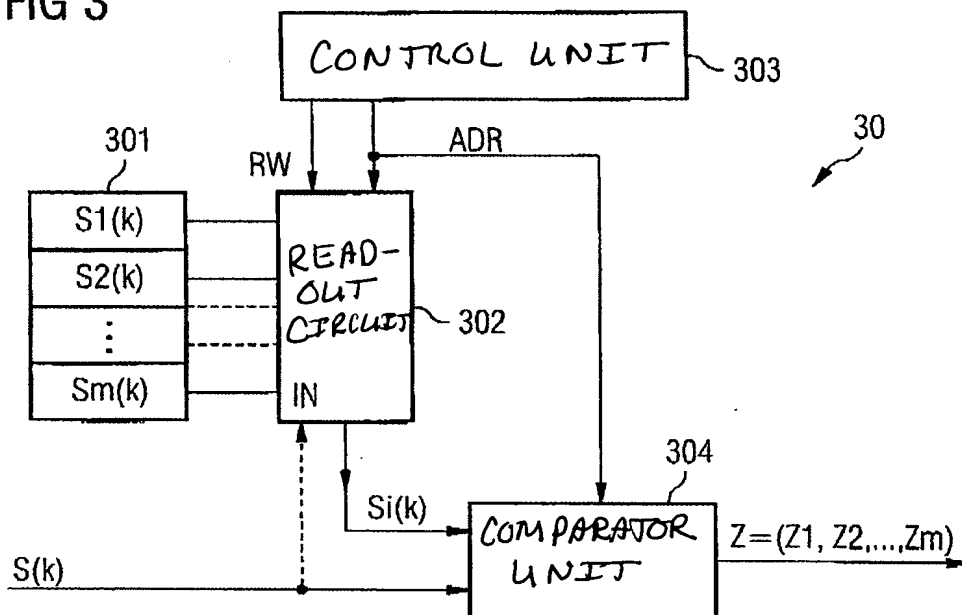
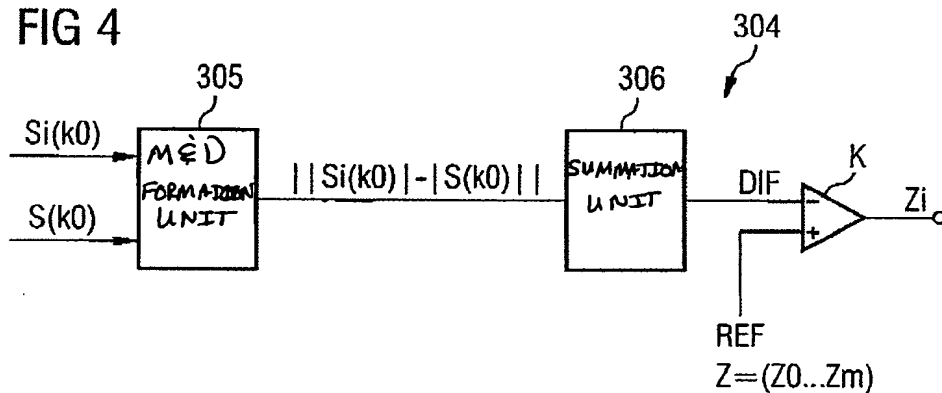


FIG 4



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FIG 5

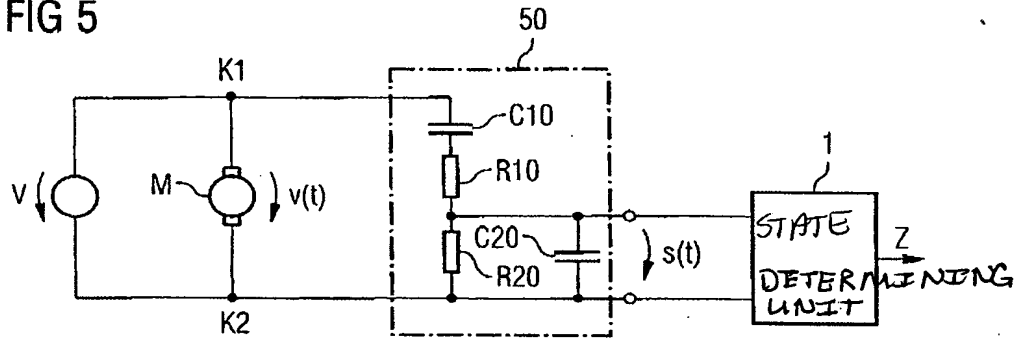
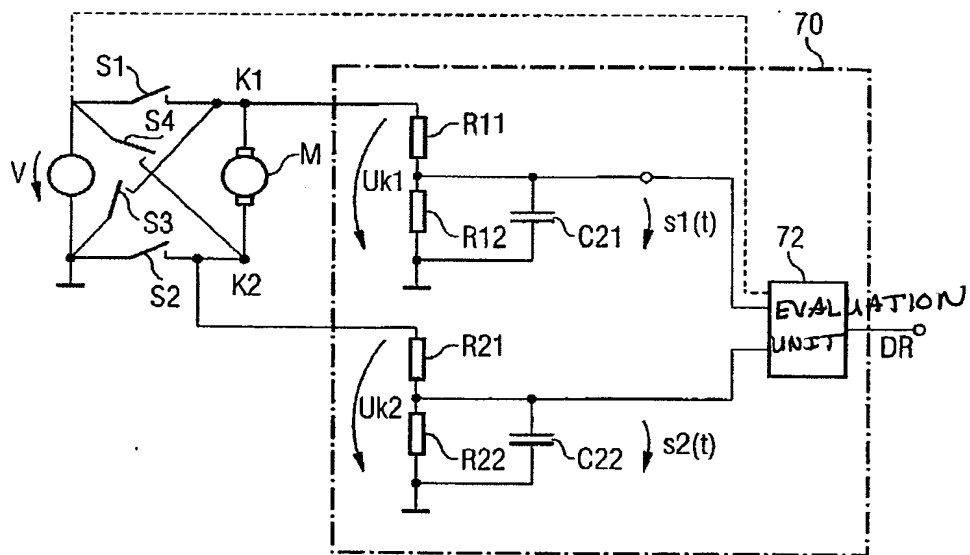
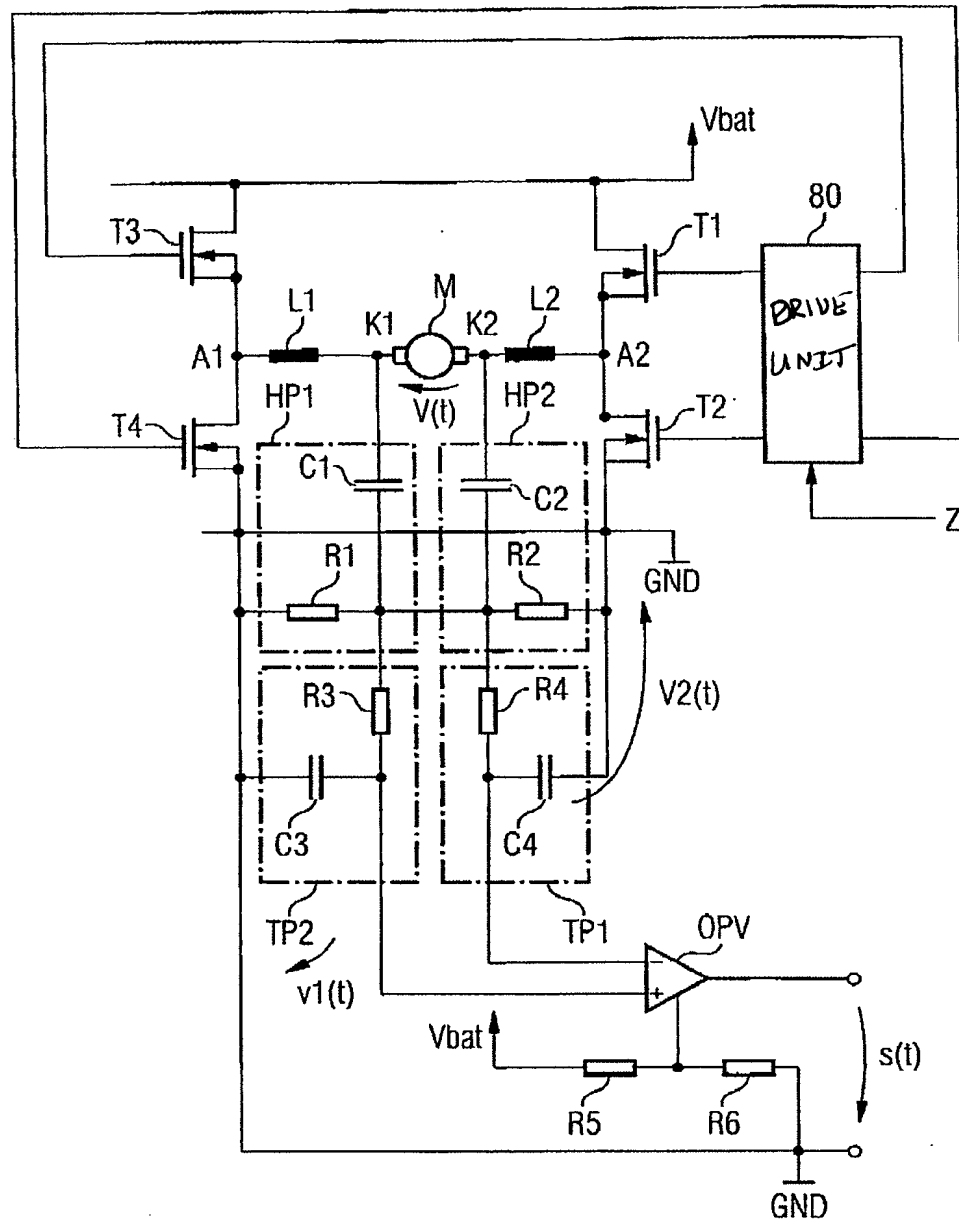


FIG 6



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FIG 7



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FIG 8

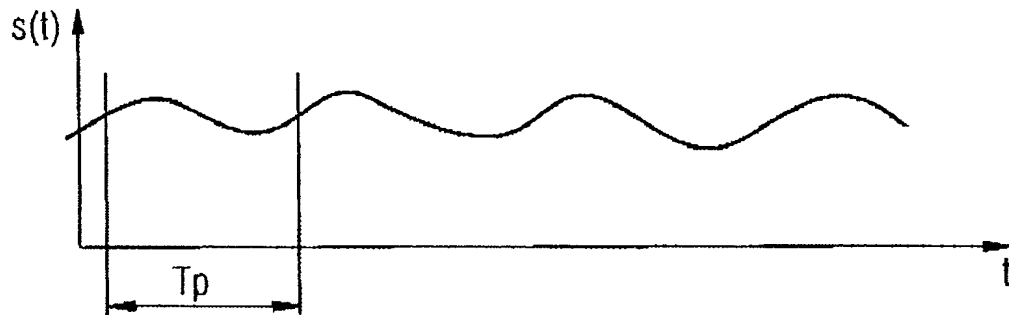


FIG 9a

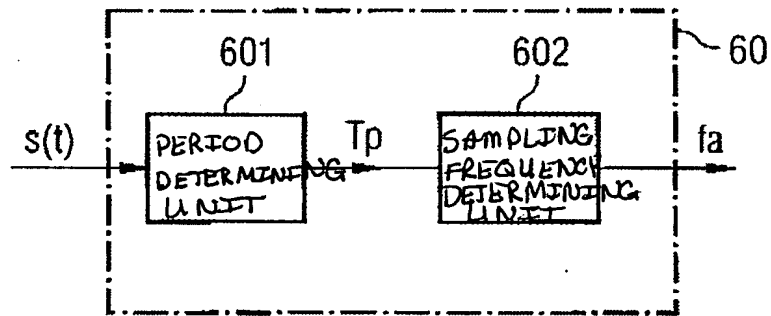
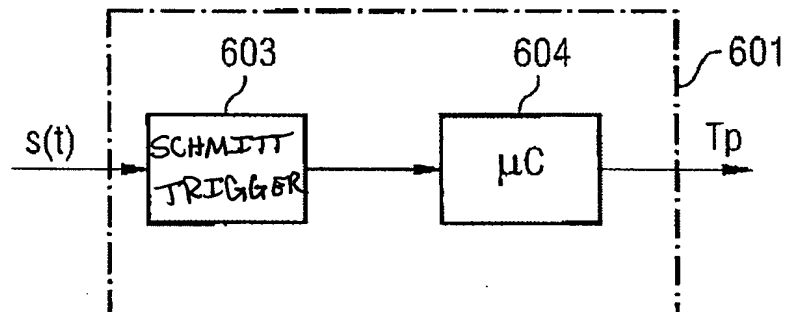
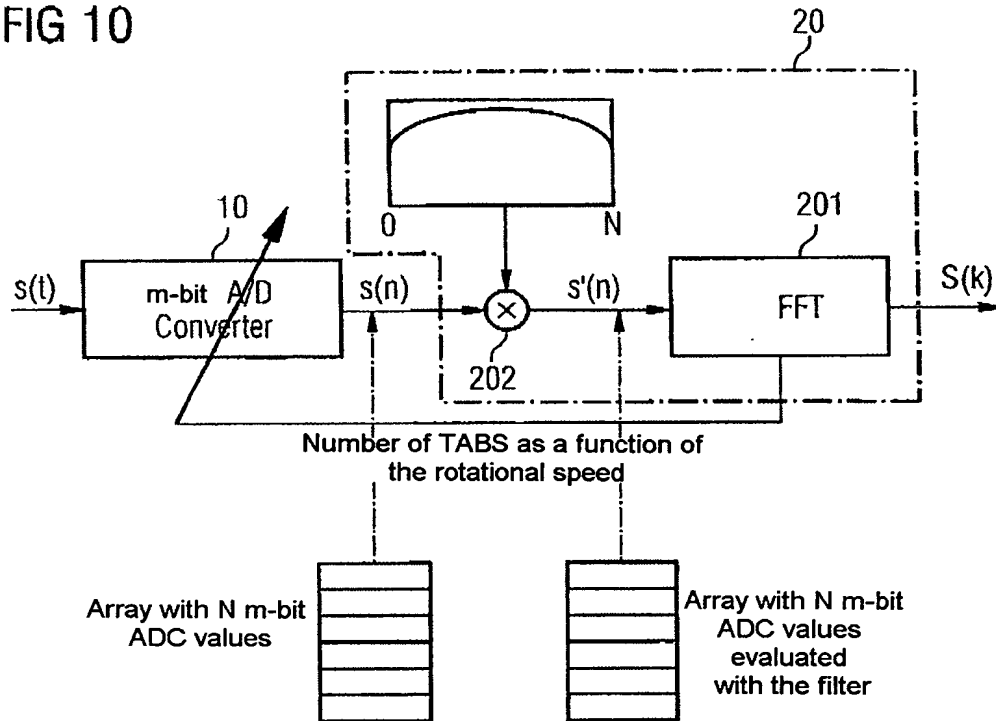


FIG 9b



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FIG 10



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FIG 11a

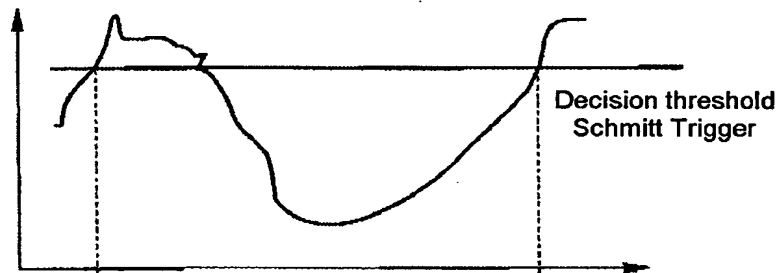


FIG 11b

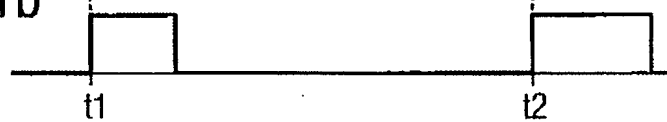


FIG 11c

